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ABSTRACT

The methodology used in the evaluation of this unit is the same as that described in SO 000 468. Eleven teachers were selected for the field trial thereby involving approximately 300 ninth through twelfth grade students. This unit has five integral activities: 1) Hunger; 2) Agricultural Realm; 3) Interviews with Farmers; 4) Game of Farming; and, 5) Hunger Revisited. Some of the specific conceptual objectives are an understanding of: the physical, economic, and cultural factors associated with areas of the world where hunger is a problem; interrelationships that exist between various crop and livestock distributions within the agricultural realm; and, the farmer's decision-making process and the factors that influence his choice. Skill development objectives included: the ability to read graphs, and the ability to make inferences from a combination of map and prose sources. The unit test concerning the attainment of the unit objectives indicate a 9 to 14 per cent increase in understandings and skills. The ratings on the effectiveness of the unit as a whole and the individual activities as to student and teacher interest, enjoyment, and student learning are given. A number of revisions are suggested for each activity. See SO 000 468 for a list of the related reports. (SBE)

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AGRICULTURE

Evaluation Report

From a Limited School Trial

of a Teaching Unit of the

High School Geography Project

Report Prepared by Robert Richburg

with the Assistance of

Dana Kurfman,

Nancy McKinley,

and

Ina Phillips

June 7, 1968

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NOTE

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Further information on the status and plans of the AAG project is available from:

High School Geography Project
P.O. Box 1095
Boulder, Colorado 80302

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George Vuicich, Associate Director

HIGH SCHOOL GEOGRAPHY PROJECT TEACHERS

PARTICIPATING IN AGRICULTURE UNIT LIMITED SCHOOL TRIALS

The High School Geography Project is deeply indebted to the following trial teachers and their students.

Sidney Blackstone, East Atlanta High School, Atlanta, Georgia

John Finnessy, Price Laboratory School, Cedar Falls, Iowa

Lloyd A. Gordon, Sequoia High School, Redwood City, California

Sister M. Hermana, Regina High School, Minneapolis, Minnesota

James F. Marran, New Trier High School West, Northfield, Illinois

Paul G. Oswald, John Marshall High School, Cleveland, Ohio

Robert B. Pratt, Bowdish Junior High School, Spokane, Washington

Sister Helen Schulteis, St. Joseph High School, Kenosha, Wisconsin

David Ross Thomas, Bassett High School, Bassett, Virginia

Jo Ann G. Wickman, Easthampton High School, Easthampton, Massachusetts

Gary Wiseman, Champaign Senior High School, Champaign, Illinois

TABLE OF CONTENTS

I. Summary of Findings 1

II. Description of the Limited School Trials. 3
- A. The Unit Materials
- B. The Teachers
- C. The Students
- D. The Evaluation Instruments

III. Rating the Unit and Its Activities. 5
- A. Student Interest
- B. Student Learnings
- C. The Effectiveness of Individual Activities

IV. Objectives and Their Attainment 9
- A. Test Data
- B. Student Statements of Learnings
- C. Teacher Statements of Learnings

V. The Unit Materials 12
- A. Time Requirements for the Unit
- B. Student Ratings
- C. The Teacher's Guide
- D. The Unit Test

VI. Specific Recommendations for Each Activity. 14
- A. Hunger
- B. Agricultural Realm
- C. Interviews with Farmers
- D. The Game of Farming
- E. Hunger Revisited

VII. Appendices. 19
- A. Teacher Final Questionnaire
  - 1. Table One: Summary of Objective Questions. 19
  - 2. Table Two: Selected Teacher Comments 20

VII. Appendices (cont.)

B. Teacher Questionnaires on Each Activity

1. Table One: Summary of Objective Information from Teacher Activity Evaluation Forms. 27
2. Table Two: Selected Teacher Comments from Teacher Activity Evaluation Forms 28

C. Student Questionnaires

1. Table One: Summary of Objective Information. 37
2. Table Two: Selected Student Comments 38

D. Test Data 46

E. HSGP Limited School Trials Data, 1967-1968. 49

F. Questionnaires. 50

SUMMARY OF FINDINGS

1. This trial represented the first limited school trial for the Agriculture Unit and it involved only eleven teachers and approximately 300 students. This small sample of teachers is unquestionably above average in experience and geographic knowledge. The students, who were predominantly ninth and tenth graders, averaged in the 68th percentile in verbal aptitude.

2. The unit as a whole was rated on a par with the Growth of Cities Unit and superior to the Culture Change Unit in this year's trials. It is important, however, to remember the influence of the Game of Farming on this rating. The Game of Farming appears to be the most successful activity thus far developed for the Geography in an Urban Age Course and it clearly dominates the unit. Outside of the Game of Farming there is relatively little active student involvement in the unit and were it not for the Game, the unit may indeed by quite mediocre by HSGP standards.

3. Activity One, Hunger, was relatively well received by both teachers and students. Part of the activity's success seems due to the fact that hunger and over population are social problems that students are sincerely concerned about.

4. Students and teachers generally enjoyed the taped Interviews with Farmers, but unanimously grew tired of them because of their length. When asked which activity needed the most revision, students most often mentioned this activity. The tapes must be shortened or reduced in number.

5. Teachers found the Agricultural Realm activity the least enjoyable of all to teach. Students commented that only Hunger Revisited was less interesting.

6. Hunger Revisited was the least successful of all the activities in the unit. We should seriously consider combining it with Activity One.

7. The readings in the unit are generally satisfactory. A review of the sentence structure and vocabulary used in Activities One and Three seems advisable, however. Activity Three has been especially criticized for containing too much "farm jargon."

8. The Teacher's Guide for the Agriculture Unit was generally thought to be good. However, the directions for Parts Two, Three and Four of the Agricultural Realm Activity are not clear or complete enough and the guidelines for the Game of Farming seem overly-directive.

DESCRIPTION OF THE LIMITED SCHOOL TRIALS

The purpose of the 1967-1968 limited school trials has been to provide information that would be useful in editing and modifying the units being tried. This is the third school year in which HSGP has conducted limited trials but this is the first time that the Agriculture Unit has been involved in this type of trial.

The Unit Materials

The unit has five activities all of which are considered integral. It was estimated that the unit would take from sixteen to twenty days to teach.

The materials for the Agriculture Unit consist of a Teacher's Guide, Student Resources, a tablet of study questions, three tape recordings of interviews with farmers, several map masters for making transparencies and miscellaneous activity sheets and cards for the Game of Farming.

The Teachers

Eleven teachers participated in the trial of the Agriculture Unit. They are situated in nine public and two parochial schools in ten states around the country. There is reason to believe that they are considerably above average in their teaching experience and in their knowledge of geography. The group averages eleven years of teaching experience with five teachers having taught four years or less and three teachers fifteen years or more. They have had on an average twenty-seven hours of geography in their college training, though within the group there is a wide range of geography preparation. Three of the teachers have had three hours or less of geography, while three others have had over 50 hours. Their scores on the Graduate Record Geography Examination place them between the 44th and 48th percentile as a group, which is slightly higher than the mean score for last year's teachers. Incidentally, five of the eleven teachers taught HSGP materials in earlier trials.

The Students

Each of these teachers had one or two classes of students. Approximately 300 students participated in all. They were almost equally divided among 1) ninth graders and 2) tenth, eleventh, and twelfth graders. Specifically, 50 per cent were in ninth grade, 35 per cent in tenth grade, 6 per cent in eleventh grade and 9 per cent in twelfth grade.

However, they had a higher verbal aptitude than expected for the ultimate users of the material. The mean for the whole group was slightly below the 68th percentile. The ninth graders ranked at the 79th percentile, the tenth graders at the 48th percentile, and the eleventh and twelfth graders at the 61st percentile.

The Evaluation Instruments

A number of instruments were used to obtain information on which to base this evaluation report. Estimates of verbal aptitude were obtained by administering the verbal section of the Cooperative School and College Ability Test (SCAT) Form 3B. Information about the teachers was obtained by a background information questionnaire and by the administration of the GRE Advanced Geography test. Teachers took just half of this examination and Educational Testing Service provided an estimate of their percentile rank from this incomplete data.

At the end of the unit the students and teachers filled out questionnaires. A 50 per cent spaced sample of student questionnaires was used to summarize the openended questions. Teachers also completed questionnaires at the end of each activity in the unit. Copies of these questionnaires are included at the end of this report.

A unit test was administered before the unit was taught and at its conclusion. The same test was used in both administrations. For the analysis of the last two essay questions on the test a 50 per cent spaced sample was taken both from the pretest and the posttest and analyzed.

RATING THE UNIT AND ITS ACTIVITIES

Student Interest

The Agriculture Unit was successful on the whole in stimulating student interest. Eighty-one per cent of the students in this relatively small trial indicated a positive interest in the unit. This figure compares favorably with the two units which preceded the trial of Agriculture in this year's school trials and closely approximates the ratings given the Manufacturing and Political Processes units in last year's trials. The Game of Farming tends to dominate the unit in terms of student interest in much the same way that Portsville dominates the Growth of Cities Unit. Without the Game the Agriculture Unit would be a very mediocre one by prior school trial standards.

Student Learnings

The test results for this unit were very similar to those obtained for the Growth of Cities and Culture Changes Units. The pretest mean score was 54 per cent and the posttest mean score 66 per cent. The 12 per cent increment almost exactly equals that of the two units preceding Agriculture in school trials. The 54 pretest mean is considerably higher than the average pretest scores in last year's school trials. This high pretest average is probably due in large measure to the above average verbal aptitude of this year's trial students. It may also be due to the attempt to make the unit test measure an understanding of general concepts rather than knowledge of specific information.

When students were asked to indicate how much they learned from the unit, 73 per cent responded that they had learned fairly much or a great deal. This is a somewhat lower percentage than we would expect and may indicate a need for more depth in some of the activities.

The eleven teachers who participated in the trial of the Agriculture Unit were somewhat more positive about the learning that took place in this unit than they had been about the Culture Change Unit, though less positive about Agriculture in comparison

with the Growth of Cities Unit learnings. After each activity in the trial of all three units the teachers were asked to estimate how much their students learned from the activity. An average figure for this estimate was determined with the use of a four point scale. A plus two was assigned to the most positive opinion or highest estimate that they could give (my students learned a great deal), a plus one was assigned to a somewhat positive opinion (my students learned fairly much), a somewhat negative opinion (my students learned little) received a minus one value, and the most negative opinion they could have offered (my students learned nothing) received a minus two value. With this scale the Agriculture Unit as a whole received a 1.14 rating by the eleven trial teachers as compared to a 1.22 rating by these same teachers for the Growth of Cities Unit and 1.05 rating for the Culture Change Unit.

The Effectiveness of Individual Activities

The same four point rating scale that is described above was used to compare all the activities within the Agriculture Unit. The following chart summarizes this comparison with regard to how much teachers enjoyed teaching each activity, how much they felt students were interested in and learned from each activity, and then an indication on the part of the students themselves as to how interesting each activity was and how much they felt they learned from each one.

	Game of Farming	Hunger	Interviews with Farmers	Agricultural Realm	Hunger Revisited
Teacher Enjoyment	2.00	1.75	1.45	.72	.75
Teacher Estimate of Student Interest	1.91	1.27	.82	.63	.13
Teacher Estimate of Student Learning	1.64	1.45	1.09	1.00	.63
Student Estimate of Own Interest	1.46	.20	.50	.12	.08
Student Estimate of Amount Learned	1.23	.35	.75	.27	.21

The chart indicates that both teachers and students find the Game

of Farming exciting and highly instructional. The Game ranks higher than any other activity in the course on all these indices except the student estimate of learning.

The Hunger activity has a relatively high rating by teachers, but has a considerably lower numerical rating by students. It is quite probable that the numerical rating derived from the student questionnaires, does not represent an accurate student appraisal of the activity. The student ratings are registered on the questionnaire that is filled out at the end of the unit. The Hunger activity is the first activity in the unit and the Hunger Revisited activity, which was consistently rated unsuccessful by both teachers and students, is the last activity in the unit. Because of the similarity in title and subject matter between these two activities and because Hunger Revisited is the last activity they have been involved with before filling out their questionnaires, it seems likely that there is some blurring of the two activities and that Hunger received some of the negative ratings intended for Hunger Revisited.

The Interviews activity received widely varying comment from both teachers and students. It received more highly enthusiastic remarks than any activity except the Game of Farming. On the other hand, it received a large number of very critical comments, especially from students. Both teachers and students felt that the Interviews taught a good deal. The dissatisfaction was generally with the length of time that was spent passively listening. Role playing the Interviews helped in some cases to vary the routine but on the whole teachers feel there is too little variety and too little student involvement.

The Agricultural Realm was not well received by teachers or students. Parts one and four of the activity were better received than the group study and report projects specified in parts two and three. There is some evidence too that the semi-programmed materials in part four are more appropriate with higher ability or more mature students than with the more average students.

Hunger Revisited received the lowest rating by both teachers and students of any activity in the unit. It would rank among the least successful of all the activities involved in this year's school trials. The major problem in the activity seems to be in stimulating interest to return to the subject of hunger after what was thought to be a complete discussion of it early in the unit.

On the final unit questionnaire, teachers were asked to suggest which activities were essential to the unit, which would be optional and which could be dropped altogether. Four of the nine teachers responding felt the Agricultural Realm should be an optional activity. Though only two teachers felt that Hunger Revisited should be dropped completely, several commented in other places that it should be combined with Hunger. All the other activities were thought essential to the unit.

OBJECTIVES AND THEIR ATTAINMENT

Test Data

One of the major conceptual objectives of this unit is an increased understanding of the physical, economic and cultural factors that are associated with areas of the world where hunger is a problem. Eight multiple-choice questions (#'s 6, 10, 13, 14, 15, 22, 23 and 28) deal directly with this objective. An average of 52 per cent of the students answered these questions correctly on the pretest and 63 per cent on the posttest. From the test results of previous units, this seems to represent a satisfactory increase.*

One of the two essay questions in the test, question number 30, also attempted to measure the attainment of this objective. The procedures used to evaluate student answers to this question are enumerated in Appendix D of this report. However, a measure of the improved performance on this item can be gotten from the fact that only 8 per cent of the students on the pretest had answers that were considered of exceptionally high quality while 36 per cent of the posttest papers were judged to be of this quality.

A second major concept dealt with in the unit objectives is an understanding of the interrelationships that exist between various crop and livestock distributions within the agricultural realm. Four multiple-choice questions (#'s 17, 18, 19 and 20) measure student performance on this objective. These items showed gains from a pretest mean of 59 per cent to a posttest mean of 69 per cent. While this represents a slightly lower mean increase than shown for objective one, this is still satisfactory. It is significant to note that the 59 per cent pretest mean is

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* No control group was used in the testing of the Agriculture Unit. However, the average pretest to posttest gain for the control groups used in the trials of the Growth of Cities and Culture Change Units was consistently two to three per cent. Consequently, it seems reasonable to assume here as was done in the trial of these earlier units that increases of over five per cent are indicative of significantly improved performance on the objective.

quite high. This indicates that students already had a fair grasp of the content of this objective before the unit was taught.

Another major conceptual objective involves understanding the farmer's decision making process and the factors which influence his choice of what and how to raise the various crops and livestock that he deals with. Five multiple-choice items (#'s 5, 7, 9, 12 and 26) deal specifically with this objective. These items showed the same per cent increase as was demonstrated for concept two. This increase was from a pretest mean of 45 per cent to a posttest mean of 55 per cent.

An essay question was also used to measure performance on this objective. Question 30 asks the student to list five factors they felt to be most important in influencing the agricultural decisions of the farmers in their area. The procedures used to evaluate the student responses to this question are described in Appendix B. However, the per cent of students listing four or five acceptable factors increased from 38 per cent in the pretest to 51 per cent in the posttest.

In addition to these major conceptual objectives several skill objectives are measured by the unit test. The ability to read graphs is emphasized particularly in the Game of Farming and performance in this skill is measured with three multiple-choice items (#'s 9, 13 and 14). An average of 41 per cent of the students answered these graph questions correctly in the pretest and 55 per cent of them answered the questions correctly in the posttest. The resultant 14 per cent improvement seems highly satisfactory.

The ability to make inferences from a combination of map and prose sources is another skill dealt with in several of the unit activities. Three multiple-choice items (#'s 24, 25, and 26) attempt to measure improvement in the performance of this skill. An average of 60 per cent of the students were able to make the desired inferences in the pretest while 69 per cent were able to do so on the posttest. This too seems to be a satisfactory increment.

Student Statements of Learning

In the student questionnaire, students were asked to indicate the most worthwhile thing they learned from the unit. Attitudinal learnings were most often mentioned though concepts about agriculture were also commonly indicated. Skill learnings were rarely mentioned. The following are examples of the statements made by students concerning the most worthwhile thing they learned:

"How hungry the rest of the world is."

"The most worthwhile thing I learned from this unit was the great feeling and respect that I now have toward farmers. It also brings to mind that these farmers feed millions of hungry people. What do we do?"

"I learned to appreciate the ingenuity of the farmers of the world. I discovered that their work is more than growing plants, it is the science of producing more and better food for our world."

"I learned about how farmers really are and not how Hollywood makes them up to be in the movies. This unit brought farming closer to home."

"That world hunger problems can't be solved with the wave of a wand. There are real obstacles to overcome, but there is also some real ideas and real hope to overcome them."

"I learned how the farmers in this country grow different crops and how they decide which crops to grow. I also learned how much time, work and money it takes to farm."

Teacher Statements of Learnings

At the conclusion of the unit teachers were also asked to indicate the most worthwhile learnings in the unit. Here, as in the student comments, attitudinal learnings were most often mentioned. Some examples of teacher comments about the learnings in the unit follow:

"I think my students now feel more of a kinship to the farmer than they previously held."

"For four weeks of their lives, my students became aware and appreciative of two large groups in the world - groups to which these students had previously given little or no thought - the people of developing countries and the people engaged in agriculture. The students were very vocal in their understanding, concern and deep sympathy."

THE UNIT MATERIALS

Time Requirements for the Unit

It seems likely that because the trial of the Agriculture Unit took place during the latter part of April and the early part of May, trial teachers generally tended to string out the unit so as not to have to fill in the last few weeks of school with still another unit. There were virtually no reservations expressed regarding the time estimates we suggest for the teaching of each activity. However, the trial teachers did take longer to teach most activities than we estimated they should. With this in mind we have tended to recommend smaller increments in the estimates of required teaching time than the figures provided by this year's teachers would seem to warrant.

The following chart summarizes the amount of time we suggested in this year's Teacher's Guide, as well as the time estimates we would recommend for next year, if the activity retains its present form.

	At Present	Proposed for 1968-1969 School Trials
Hunger	2 days	2 and 1/2 to 3 days
Agricultural Realm	3 or 4 days	4 to 5 days
Interviews with Farmers	6 or 7 days	7 days
Game of Farming	5 days	6 days
Hunger Revisited	2 days	2 days

Thus if the unit retains its present form, we would recommend it as a 21 to 23 day unit.

Student Readings

All eleven teachers reported that the readings in the Agriculture Unit were clear and understandable for average students. Fifty-six per cent of them also felt they were clear for below average students. This rating is considerably higher than that

shown toward the Growth of Cities or Culture Change Units. Only two teachers suggested that more readings be added to the unit and no one suggested that any be dropped.

The criticism most often made of the readings was that they contained too much "farm jargon" for the average urban student. The Interviews should be reviewed especially carefully in this regard. Two teachers commented, too, on the unnecessarily complex sentence structure in the readings for the Hunger and Agricultural Realm activities.

The Teacher's Guide

The teachers were generally satisfied with the Teacher's Guide for the Agriculture Unit. Some expressed reservations about the clarity of the directions given for the Agricultural Realm Activity. Some also felt the guidelines for the Game of Farming were unnecessarily complicated. Several teachers requested additional bibliographic material including relevant films for the various topics of the unit.

One teacher commented that the detailed directions and lengthy background information that we include in our Teacher's Guide is very good. However, a short point by point summary of each day's procedures would be helpful.

The Unit Test

The teachers were generally pleased with the unit test. The criticisms that were made concerned typographical errors and format problems.

Item analysis data suggests that two questions, one and twenty, may be ambiguous. These items have r_{bis} coefficients of only about .30.

SPECIFIC RECOMMENDATIONS FOR EACH ACTIVITY

Hunger

1. The student readings should be reviewed carefully. Some students complained that the reading was difficult because of the numerous complex sentences.
2. On page 2 of the Student Resources several of the most significant famines in history are mentioned. This list should be updated so that students realize that famine is as much a 20th century phenomenon as an historic one.
3. There is a discrepancy between the statement on page 9 of the Teacher's Guide which mentions that Japan is among the well fed nations of the world and the map on page 5, where in it is shown as a poorly fed nation.
4. Some pictures of people with dietary deficiency diseases would vividly supplement the discussion of the problems found in the poorly fed nations.
5. The "Population Growth in Mauritius" graph on page 11 of the Student Resources is excessively difficult for students to use.
6. The possibility of combining Hunger and Hunger Revisited should be carefully considered. Teachers and students commented that they saw little point in returning to the discussion of Hunger at the end of the unit.

Agricultural Realm

1. Teachers found the Agricultural Realm the least enjoyable of all the activities in the unit to teach. This is in large measure a reflection of the fact that their students did not become satisfactorily involved in the content of the activity.

2. Devise a better teaching strategy than the group study and group report procedure specified in parts two and three. This approach was found unsatisfactory by eight of the eleven teachers. The reasons offered for it being unsatisfactory were varied, but several mentioned that is was difficult to distribute the work evenly within the group. Also, some groups finished well before others and had nothing to do.

3. If we decide to retain the group study approach for parts two and three, several aspects of the procedure should be changed. The class should be divided so that there are fewer students studying each agricultural commodity map. Possibly having the students work in pairs or assigning the questions as a homework assignment would be better approaches than are presently suggested. The idea of having the groups make a report to the class should be reconsidered. Students indicated they learned something from making their report, but little from listening to the other reports.

4. Asking teachers to duplicate the written reports of the groups as is suggested on page 20 is an impractical suggestion from the standpoint of the time and effort that it takes.

5. The procedures for using the semi-programmed materials in part four should be explicated. Students enjoyed working through the program, but teachers were generally not clear about the points to be brought out in the discussion afterwards. The questions used in the program are too specific to be useful for a class discussion and tend to evoke verbatim the answers given in the program. If a discussion is desirable after the programmed materials, then specify the questions that would bring out the ideas desired.

Interviews with Farmers

1. Students generally find the interviews interesting and informative, but the tapes are too long and interest flags well before the end of the activity.

2. Either all the tapes must be shortened appreciably, or one or two of the tapes dropped from the activity. If the latter course is considered, the least enjoyed tapes were 1) The Interview with the Costa Rican Farmers and 2) The Interview with Mr. Yomura.

3. The tapes might hold student attention better if they were accompanied by a slide presentation. If this were done for one or two of the tapes and one or two were suggested as homework the activity would have more variety.

4. The part of the activity that dealt with an interview with a local farmer was very well received by those teachers who tried it. It might be well to make this an integral part of the activity.

5. The arithmetic involved in the questions on the interviews should be simplified.

6. There are some minor arithmetic errors on pages 48 and 49 of the Teacher's Guide. On page 48 we indicate that Mr. Reppert made $268 for the steer that he sold. If the steer weighed 1200 lbs. and he received 24¢ per pound as we suggest, he made $288. On page 49 where the calculations of Mr. Reppert's expenses for 1962 are shown, we show him making $44 per head when he in fact makes $42.

The Game of Farming

1. The Game of Farming seems from the limited exposure provided by this school trial, to be the most successful activity thus far developed for the Geography in an Urban Age Course. It is quite satisfactory the way it is, though relatively minor changes may make it even more effective.

2. Page 118 and 119 suggest the making of a land use map as an optional part of this activity. Teacher's comments indicate that this means of graphically demonstrating the influence of the individual farmer's decisions on the agricultural landscape,

is a good one and might be made integral to the unit. It has been suggested that a map of Settler County be included in the materials. The map could be the size of the Portsville board and have the outlines of fifteen to twenty farms designated on it as well as the main physical features of the area.

If the plastic overlay of the Portsville board were removed and the Settler County map inserted in the frame, each pair of students could choose their farm and represent their crop and livestock choices by placing variously colored, lightly adhesive paper on the map. Different patterned contact paper might be suitable for this purpose.

Teachers have noted that it is difficult to keep students moving at the same pace through the game. The faster students finish making their allocations well before the remainder of the class and have nothing to do until the others are ready for the outcome cards. The idea of the land use map, in addition to enabling students to see how a landscape changes over time, would give the students who are quick to make their allocations something to do while others are still working.

3. There is an error in the sample activity sheets provided for the years 1919-1921. Pages 105-107 show an $1800 allocation for pasture cattle. This investment would necessitate the use of three 80 acre units of land and only two are indicated as being used.

4. Teachers indicate that for the most part the directions for the Game of Farming are overly complicated. A typical comment in this regard was that while the directions were very precise, they made the Game seem more complex and formidable than it in fact turned out to be. Any simplifications that can be made in this regard would be helpful.

5. One teacher commented that the seven educational objectives that were listed for the Game of Farming represent too large a number to work with effectively in any single activity.

6. The reasons for differing outcome cards and differing multipliers is not made clear in the Teacher's Guide. Students should understand that rainfall and other physical conditions can differ significantly from one area of the county to another and that this is reflected in the differing multipliers.

7. Base masters of the various activity sheets should be provided so that teachers can make transparencies of the activity sheets and thereby facilitate their explanation of the Game of Farming.

Hunger Revisited

1. Both teachers and students rated this activity lower than any other in the unit in terms of interest and learning. In terms of the teacher estimate of student interest it ranks lower than any activity trial tested this year.

2. Because it is clearly anti-climatic to return to the topic of hunger after the Interviews with Farmers and the Game of Farming, the content of the Hunger Revisited activity should be combined with the first activity of the unit.

3. One teacher recommended that the activity include some of the recent findings of the International Rice Research Institute in the Philippines. Apparently this organization has made a major break through that will significantly affect the world's hunger problem.

4. Teachers should be warned early in the course to send for information from the United Nations and Department of Agriculture, if they intend to use the alternative strategy suggested on page 133 of the Teacher's Guide.

APPENDIX A - TABLE ONE

TEACHER FINAL QUESTIONNAIRE

Summary of Objective Questions

Questions 6, 14, 18, 20, 22, 23, 24, and 25 are recorded under teacher comments.

% Yes		
100%	1.	Do you believe the reading materials are clearly written and understandable for the average student?
56%	2.	Do you believe the reading materials are clearly written and understandable for the below average student?
89%	3.	Do you believe the reading materials are well-organized from an instructors point of view?
33%	4.	Should there be more student reading in the unit?
11%	5.	Should there be less student reading in the unit?
33%	7.	Should the Teacher's Guidelines be made more effective in providing clear directions for the teacher?
33%	8.	Should the Teacher's Guidelines be made more effective in clarifying the objectives of the unit?
44%	9.	Should the Teacher's Guidelines be made more effective in suggesting a variety of learning activities?
44%	10.	Should the Teacher's Guidelines be made more effective in providing the geographical background you needed to teach the unit?
22%	11.	Should the Teacher's Guidelines be made more effective in suggesting supplementary reading materials for students?
44%	12.	Did you feel unnecessarily restricted or overly directed by the guidelines?
44%	13.	Do you feel the guidelines should provide more direction for the teacher?
0%	15.	Is the subject matter of the unit too difficult for students?
11%	16.	Is the subject matter of the unit too simple for students?
67%	17.	Is the subject matter well organized?
89%	21.	Did the unit test adequately measure the content of the unit as you taught it?

19. How worthwhile is each activity?

Name of Activity	# Responding Essential to the unit	# Responding Could be optional	# Responding Could be dropped
Hunger	8	1	0
The Agricultural Realm	5	4	0
Interviews with Farmers	8	1	0
The Game of Farming	9	0	0
Hunger Revisited	7	0	2

APPENDIX A - TABLE TWO

TEACHER COMMENTS FROM THE FINAL UNIT QUESTIONNAIRE

6. Suggestions and/or comments about the reading materials.

I think the students felt there was a greater burden of reading material with this unit, a reaction to the unattractive format, I am certain.

Most difficult reading for my pupils was the Agricultural Realm. Also, some parts of Hunger were not understood.

There ought to be more, but shorter interviews with the farmers. Be careful with the trade language with us city people.

My student found the readings in this unit particularly interesting, although as I read their critiques I find that many contradict my statement. However, I do recall several of them saying they found the reading fascinating.

On the whole it is very satisfactory.

The readings were relevant and adequate. Some involvement might be added. What is included now is good.

14. Suggestions and/or comments about the Teacher's Guidelines.

While the game was relatively easy to play, the directions, as in other games, seemed long and hard to understand at first.

I had to check this guideline more closely than the previous ones. Several errors were noted on activity evaluations of Interviews with Farmers and Game of Farming. Game of Farming needs to be made a little clearer.

Perhaps you could include more bibliographic materials for student readings on the lives of farmers in various parts of the world, eg Pearl Buck's, The Good Earth. Would it be possible to include more information on farming as a sector in the total economy?

Keep the guidelines (all, this and other units) lengthy, but summarize them briefly! This isn't the paradox it seems to be. The great detail in the guidelines gives assurance to the teacher lacking a great geographic background and frees the teacher with geographic background to be more creative in his teaching. There

Teacher Comments From the Final Unit Questionnaire

14. Suggestions and/or comments about the Teacher's Guidelines (cont.)

are so many days when a teacher (five classes per day, plus extra-curriculars) doesn't have enough time to read and reread the lengthy explanations, but the detailed background is very necessary for the teacher. However, a brief summary, point by point would organize the material, could be quickly used to review after previous study and could serve as a guide during the class period.

18. Suggestions and/or comments about the subject matter.

I would like to see the activity on Hunger Revisited reworked. It was difficult to relate it to Hunger.

The unit seems to be shallow. I suppose this is due to the emphasis on Agriculture in the more traditional methods of teaching Geography in high school.

On the whole the subject matter could be made a little more difficult. I think there is many opportunities for challenging the superior student, but some material should be made available.

20. What do you think was the most worthwhile thing your students learned from the unit?

They gained a tremendous awareness into the problem of hunger and exessive population growth. Also, they seemed to gain understanding of what is involved in trying to alleviate hunger.

The Game of Farming - Pupils had a great interest in this and showed an ardent desire to work out this activity to the best of their abilities. I know they have a better understanding of some farm problems as a result of this activity.

I think my students now feel more of a kinship to the farmer than they previously held.

Their attitude toward the farmer and farming changed from one of contempt or indifference to one of respect and admiration. Also, it made them more keenly aware of a problem we well-fed Westerners too often ignore: Hungry people have so little to sacrifice when they accept communism to replace democracy.

Teacher Comments From the Fianl Unit Questionnaire

20. What do you think was the most worthwhile thing your students learned from the unit? (cont.)

They developed an idea of and felt the problems of the farmer. They realized that farming is a business, a risky one, dependent upon the market, climate, and chance.

For four weeks of their lives my students became aware and appreciative of two large groups in the world, groups to which these students had previously given little or no thought, the people of developing countries and the people engaged in agriculture. The students were very vocal in their understanding, concern and deep sympathy.

My students learned 1) a realization of the problem of world hunger and the related population problem and 2) a general introduction to agriculture which most of my students did not possess.

The complexity of agriculture and the nature of the decision making process that goes on in relation to agricultural activities.

22. Please indicate how the test can be improved.

The test is too factual for the emphasis in the teaching.

Many of the questions on the test proved to be too difficult for my pupils.

I don't think the test needs improvement. My students didn't do as well as I had anticipated, but the test was consistent with the unit's indicated objectives and as the girls say, "There were no pat answers."

Place the map and questions on the same page.

23. If you were to reteach the unit the way you want to what changes would you make a) in the activities you would teach, b) in the order of teaching the activities and c) in the amount of time you would spend on each activity? Please explain.

I would most likely spend at least two additional weeks to cover the unit adequately. (This is with slow pupils.)

Teacher Comments From the Final Unit Questionnaire

23. If you were to reteach the unit the way you want to what changes would you make a) in the activities you would teach, b) in the order of teaching the activities and c) in the amount of time you would spend on each activity? Please explain. (cont.)

I would teach the same activities in about the same order. I would drop Hunger Revisited or shorten and make it more of a summarizing activity. I might add more demographic information concerning hunger. The State Department has a series of transparencies that discusses the population explosion and related problems. I might give more development and explanation to the ideas and problems related to hunger.

I would develop more of the terms the farmers use and perhaps some of the uses for their products. I wouldn't use the programmed materials used with Hunger I because of negative student reaction. Also, I would shorten the interviews activity.

I would use all the activities. However, I think I would combine activities two and three. After the report on corn I would have the Mr. Reppert interview, after the research and report on wheat I would have the tape by Mr. Sorenson. The report on rice could be used as an illustration of one of the types of irrigation farming and could be concluded with the interview of Mr. Youra. All of this could be Activity Two - called types of American farming and concluded with reports on cattle, cotton and swine. Five reports in a string followed by five tapes is too much of either. There needs to be more variety here.

I would teach the activities in the same order with more time on each with the exception of Interviews, which were far too lengthy to maintain student interest levels - even with the novelty of your very interesting tapes. It did become tedious.

I would use transparencies rather than have the students duplicate copies of their outlines of talks for Activity 9. They love preparing their own transparencies and are quite creative. I would blend Activities 9 and 10 to avoid the monotony of talks, then tapes for several days in a row.

I would expand this first activity. I believe I took extra time on this and yet did not really exhaust its many possibilities. I really think that this activity should and could be expanded greatly - about to unit proportions.

I would a) allow more time, especially on the Game of Farming, b) include data on the new hybrid rice (IR12) and c) handle the graphs in the last activity differently.

Teacher Comments From the Final Unit Questionnaire

23. If you were to reteach the unit the way you want to what changes would you make a) in the activities you would teach, b) in the order of teaching the activities and c) in the amount of time you would spend on each activity? Please explain. (cont.)

I would institute major revision in the case of Activity Three. I still question the value of tapes as a really effective teaching device. Why not try printing the interviews and then have a slide presentation to accompany them. If the slides were well done I think they could be very effective. I think to be effective you would have to almost send someone to take the pictures of the specific things you are talking about.

Activity Four is excellent, however, I would consider the role of the present day farmer. Also, somewhere in this unit you should give more consideration of the role government plays in Agriculture. Maybe this can best be done in Activity Three, but the game might be used for additional information.

24. What additional suggestions do you have for improving the effectiveness of the unit?

Why not set up the game of farming in some other parts of the world, e.g. Costa Rican frontier and coffee areas. Perhaps that would give the students even greater sympathy for agricultural problems the world over. Along the Nile before and after the Aswan Dam would also be interesting. If the data is available, I think it would be fascinating, especially since they became so involved in the game itself.

I produced a good number of transparencices which proved to be a big help. Four or five days of listening to tapes was too much for my pupils. They were interested in the first few, but became restless with the last couple.

Relate the importance of agriculture to the student. Why should they study it. Add some reading on suggested solutions to the farm problem. Maybe give them a picture of what farming may be like in the future. I cannot stress enough that my students need more help in relating some of the topics or activities to their lives. More help is needed in answering the question, "Why and how is this important to us? Why should we study this?"

Redo the Alternate Strategy on pp. 133-34 of the Teacher's Guidelines.

Teacher Comments From the Final Unit Questionnaire

24. What additional suggestions do you have for improving the effectiveness of the unit? (cont.)

The Department of Agriculture sent some very valuable information and statistics, but there was little time and guidance for the students as to how this was to be used. My students didn't really MASTER the material presented in Activity Nine. Those who prepared the presentation on corn, for example, knew that very well, but they knew little or nothing of the other five commodities. Now as I re-evaluate the unit, my work and that of the students, I think I would have each group prepare quizzes to be given after the presentations.

25. Compared to other units you have taught, how effective is this unit in its present form?

This unit had one high point, the farm game, that was higher for my kids than Portsville. The other activities didn't develop the degree of positive or negative feeling other activities in other units have.

I think it is very good. We just can't expect ninth graders to be vitally interested in farming, but they were, with a few exceptions, very enthusiastic and very interested. Compared with other units I have done on this subject, the present one was outstanding.

The more I am associated with them the better I like them. This is my favorite of the three I have taught. Also, the most effective.

It is better than some units we tested in 1966-1967. However, The Growth of Cities and Culture Change Units we tested this school year are both more effective.

Very effective. Far superior to culture and I would even say more interesting than the Urban Unit; although that was very good.

I would rate it quite high for its development of concepts and interest in the subject matter. The Game of Farming is quite equal to Portsville, to the Game of Section and to the Metfab game.

I am generally impressed with this unit. It certainly sharpened student awareness about the nature of the agricultural enterprise around the world and brought into focus problems of which they were previously unaware. I feel, however, that most students unfortunately and incorrectly feel that most problems relating to hunger

Teacher Comments From the Final Unit Questionnaire

25. Compared to other units you hve taught, how effective is this unit in its present form? (cont.)

and agriculture can be solved by simple means. Not the almost universal feeling in the essay question answer that birth control will end the problem of hunger eventually. I sense that they understand the complexity of the problem and offer maddeningly simple and even naive solutions.

APPENDIX B - TABLE ONE

Summary of Objective Information

From Teacher Activity Evaluation Forms

Activity Number	1	2	3	4	5
Number of Teachers	11	11	11	11	10
Mean Time Requirements					
Minutes Taken	125	232	350	280	100
Minutes Needed	10	13	36	55	43
Problems Checked by Teachers					
Teaching Procedures	1	4	1	-	1
Student Directions	-	5	1	1	2
Background Information	1	-	4	-	2
Reading Level	1	2	-	-	1
Map's Effectiveness	2	7	4	2	2
Mean of Ratings by Responding Teachers*					
Teacher Attitude	1.72	.72	1.45	2.00	.75
Student Interest	1.27	.63	.82	1.91	.13
Student Learning	1.45	1.00	1.09	1.64	.63
Clarity of Objectives	1.64	1.27	1.36	1.55	1.55
Subject Matter Confidence	1.55	1.18	1.45	1.36	1.44
Procedures Confidence	1.55	.36	1.72	1.18	.77

*The system used to attain the above mean ratings is explained on page 6.

APPENDIX B - TABLE TWO

Teacher Comments on Activity One - Hunger

The readings were excellent and my background is good in this area so I particularly enjoyed it.

The students were still talking about the activity as they left the room and this is a good sign of interest.

This tied together a great deal of information the students already have and gave them a new frame of reference.

Considering the purpose of this activity, I am very satisfied with the job it does. It doesn't go into depth but it does introduce the unit, create an interest and provide purpose in learning about agriculture.

I would suggest expansion of this activity.

The guiding questions seemed a little ambiguous.

I'm very well satisfied, actually amazed at the student's concern and interest - don't ask me why. They are as indifferent to their surroundings as most people are.

The activity clearly related to current events and was very easy to teach.

The activity could be improved by giving the teacher some background on the NFO in our own country and suggest how this might be covered as supplemental reading for able students.

A majority of the pupils read the student resources but most of the discussion was carried on by about 10 or fewer pupils.

Guidelines were very clear and helpful in reaching educational objectives.

Some pupils complained that they had a difficult time understanding the complex sentences which appear throughout the activity.

I saw students making relationships to a number of other points made in Culture Unit.

I do feel the expectations as stated in the objectives are not as realistic as they might be.

This is a sound introductory activity. The reading is excellent.

Teacher Comments on Activity One (cont.)

Would you consider producing these maps using colors, so that related maps as dense population and poorly fed areas could be compared more easily - one over the other? Also, the corn and swine maps would be more effective if in color. The excellent maps with the European Culture expansion spoiled me. Couldn't the same sort of thing be worked out here?

Great start for a subject covering importance of agriculture to urban students.

Teacher Comments on Activity Two - Agricultural Realm

I found some difficulty in keeping students involved. Too many students in each group for any to feel any responsibility.

The size of the groups did not encourage maximum involvement. Also, vacation fever deterred interest.

It is my opinion that additional reading could be given to the student and I would suggest that this be in the form of letters written from the areas being studied. The letters could be from a soldier or a traveler describing, in layman language, what he was observing. A few pictures or preferably slides would enable the students to identify with the areas more than they do at present. Many brochures are available from foreign embassies in our country describing their homelife and these can be secured by writing to them. A listing of some of these embassies would be very helpful.

This can use some working over. Students had a hard time understanding instructions for carrying out their own responsibilities for the group report. I made each turn in a written report and the group leader merely read his report in class.

They learned their own material but they commented that they didn't really learn too much about the other crops from the reports or discussion. There must be a better way to get this over, but I'm out of ideas right now.

Good guidelines material.

Part one and four were enjoyable to teach. The group work and reports dragged a bit for lack of direction.

There was a wealth of information to digest. The general ideas came through much stronger than the factual material. The group work didn't get at the details it could have.

The success of part three depends on how the students grasped the material from part two. The Guidelines assume this will happen. The material was there but the direction given the students didn't get them all involved in digging it out. More must be done to make them assimilate this background. The guide mentions duplication of students' answers. A ditto sheet made up by students isn't a way of doing it. The visual aids I constructed were ok, but hard to work with. It would have been nice to have the setup that existed in the Culture Unit. The last part went well. I think it should be designed to force the student to look at the question and then the answer. I found some students answering four or five questions in a row before checking their answers.

Teacher Comments on Activity Two (cont.)

The brighter and more organized students could complete this activity in four days - the others need five.

Many students moved from utter frustration to a fair sense of accomplishment.

The first and last days were wonderful, the two middle days were the most hectic I've had since the activity called European Expansion. In all fairness to the one responsible for page 20 of the Teacher's Guidelines, I will be very explicit about my work of these past few days. Ordinarily I would not be a slave to the directions of a manual, but as a limited trials teacher I feel obligated to be just that. The last paragraph was my downfall. I "forced" each group to formulate an outline or resume of its presentation, type it or print it in pencil, and then submit it to me for duplication. PROBLEM: Some groups finished sooner than others and had little or nothing to do while I helped and prodded the remaining groups to finish. Supplying masters and paper was no problem in my case; but getting the typed or printed masters to me in time to make copies for so many groups and have them ready for the third day of class was MURDER! What would I have done if I had attempted this with five classes instead of three? Eighteen groups was nigh unto impossible.

I learned so much. This is probably why I liked it.

They certainly worked with great enthusiasm, though it seems to "limp" a bit compared to the joy they found in the other two units.

The guides do an excellent job of alerting one as to the objectives.

The variety of teaching methods within the activity made it enjoyable to teach.

The reason for group study in Part Two is not clear. How is each member of the group supposed to function and was 15 the best size for these groups? In Part Four it was not clear how the semi-programmed material work sheets were to be used in class. I got verbatim answers from the sheet in class discussion.

How about more of the semi-programmed material? Perhaps it could deal with other commodities.

Teacher Comments on Activity Three - Interviews with Farmers

My students were especially interested in the interview with the Polish farmers.

The tape of the Polish farmers being interviewed seemed to clear up many misconceptions about farm life under Communism.

I didn't get the feeling I was teaching the materials, but just presenting them.

The students did not resist the materials as I had thought they might, but accepted them passively.

I found it hard to draw so many different points together.

The interviews were interesting and informative, but they went for too long at one time. The activity needs more variety. The same process was repeated. Maybe the interviews should be shortened. I have complained several times that the activities were not well enough re-enforced. This was O.K. in this respect, but needs more variety.

This activity generally held interest well. Reading while listening helped, all except in number three.

The accent of the Mr. Yomura was too much! I had the student listen for a moment and then volunteers read the parts and this worked out much better. All others seemed authentic.

I felt the procedure was repititious, so I deferred the third and fourth tapes and based the discussions on reading the interviews. The tapes are very fine, but the activity needs more variety.

The tapes were provocative and stimulating and provided me with insights and relationships.

Students responded well to the tapes; discussion was active and the ideas were excellent.

This was an exciting activity which suggested all kinds of discussion and activities. The quality and construction of the tapes was outstanding. I really feel that students were reached by this work.

It was one of the easier activities I have taught. The questions are excellent.

Most math had to be put on the board since some pupils ran into difficulties. (Some answers in the guide are incorrect or our working out the problems was incorrect.) On pages 48 and 49 $268 should be $288 and $44 a head should be $42.

Teacher Comments on Activity Three (cont.)

The problem is getting across a great amount of background material the best possible way. The use of taped interviews does the job. It is done at the expense of the student's interest. It may be the lesser of a number of evils and the price you have to pay. It is wrong, however, to push the responsibility onto the teacher. All you tell us is to use our own judgment in the interview presentation. Could a set of slides be used during the tape to illustrate various points the tape is making? I have never seen milo, for example, and a slide showing it would have been invaluable to my understanding of what it is.

The activity became boring after 3 or 4 tapes were played.

The tapes were very good! I ran into difficulty with the discussion questions.

My pupils' description was "Gosh, those were really NEAT - I never knew farmers were so intelligent!".

It was very interesting for me but the class became bored during the Costa Rica interview.

Please do not use technical terms without an explanation. What is a "duckfoot"? Also pictures of different crops would be helpful although these can be found in other sources.

A teacher without a mathematical background would have trouble without more help. Either way, more clarification is needed.

I have found that taped material usually makes for a disinterested class, especially if it is very long. This material seemed to be no exception. I doubt if the tapes are really effective. I might suggest that they be accompanied by a slide presentation. The combination of sight and sound is much more effective than just sound alone.

Teacher Comments on Activity Four - The Game of Farming

This is a very minor point, but would it be possible to have students select a farm and locate it specifically on a map of Settler County?

This activity is delightful. They were so excited. The dilemma of the farmer is one that has them more than intrigued and sympathetic.

The game is so much fun its rather easy to lose sight of its objectives.

In the 1919-1921 and 1933-1935 periods, if allocations can be made only in 80 acre units, then why show the 40 acre divisions (dotted lines) this confused several students.

I liked the method and material, but felt much frustration because it was unfamiliar to me and quite noisy.

If there is a direct ratio between their noise and excitement and their learning, they learned much!

Some pictures showing the various crops, fields, grains, seeds, machinery (developing stages from 1880 to 1935), animals grazing or penned - seemed almost mandatory for these understandings.

Only problem was one of control when working with pupil teams that ran into trouble.

It was great! It generated more excitement than anything I ever witnessed in a classroom.

They were "wild" about it.

Several of the students felt the last games left them in a pretty depressed frame of mind and felt the farmer's plight was not all that dismal. They wished they could play a game for 65, 66, and 67 to bring the picture up to date.

Too many did the computations and failed to read the reasons for multiplier factors. This needs work.

Success is a great motivator. Those students who lost in the beginning series were those who tended to be less involved. Consequently, the unsuccessful students gave up, were less involved and learned less.

There was some confusion on whether they could rent out land. They were much more interested in the game than the readings. I thought both were good.

I suspect that most of my students felt that Settler County just doesn't exist. Would it be possible to briefly look at a topographic map of this section of Kansas?

Teacher Comments on Activity Four (cont.)

The kids enjoyed it more than any activity so far. They were real farmers by the end of the activity. Many wanted government action. They felt natural disaster and economic problems, they weren't just reading about them.

The interest from the game carried over in the discussion, making it very enjoyable to teach.

Transparencies increase the effectiveness of explaining the sample activity sheet. I'm sure that slides (filmstrips) would have been effective in presenting the newsreels. This would have been most effective in conjunction with a taped recording.

Teacher Comments on Activity Five - Hunger Revisited

I enjoyed the structure and direction and feel it raised significant and relevant questions about land use.

The first discussion was better than the second. The graphs presented some problem in interpretation.

This is an excellent culminating activity. The students particularly enjoyed the fact that it led them into consideration of practical problems. Problem-solving, it seems to me, is the activity which is most rewarding to my particular group of students.

How the groups were to be organized was not clear to me.

This activity was like producing the second scene of Act One after the final curtain!

I feel this activity should be part of Activity One.

I hope this evaluation is not too harsh, as I would not like to sound ungrateful. I do like many ideas within it, BUT the activity is NIL coming after the Game of Farming. Theoretically it may be right, but it didn't work for me. After the students (farmers) had had such dynamic realities as in the Game of Farming, the unit is over!! As I glance over this activity now, objectives and all, I can't see why it couldn't be taught along with Hunger, as one activity.

It was very difficult to get the students to be responsive.

With a little more time I know I could have "dragged" more out of them.

The problem as I see it is not one of the material being unclear to me or my students, but one of interest.

This activity needs something to build initial interest.

APPENDIX C - TABLE ONE

HSGP Student Questionnaire Results for Agriculture Unit

How does this unit compare with others you have studied in this and other courses?

	N	%		N	%
Much poorer.	15	5%	Somewhat better.	107	38%
Somewhat poorer.	58	20%	Much better.	103	37%

Student Expressions of Interest	Unit as a Whole	Reading Materials	Hunger	Agricultural Realm	Interviews	Game of Farming	Hunger Revisited
# Responding	269	271	262	253	275	272	264
# Not remembering	5	4	18	19	4	2	16
% Dull	6%	16%	11%	11%	14%	3%	13%
% Uninteresting	13%	27%	29%	31%	18%	7%	32%
% Generally interesting	72%	54%	49%	51%	40%	21%	44%
% Extremely interesting	9%	3%	11%	7%	28%	69%	11%
Student Awareness of Objectives							
# Responding	270	265	264	263	281	272	260
# Not remembering	7	13	13	14	6	2	11
% Not aware	6%	7%	11%	7%	9%	4%	10%
% Generally not aware	16%	26%	18%	25%	15%	10%	25%
% Generally aware	61%	54%	55%	53%	44%	32%	50%
% Almost always aware	17%	13%	16%	15%	32%	54%	15%
Student Estimate of Own Learning							
# Responding	275	272	272	260	280	271	260
# Not remembering	4	8	17	16	4	3	14
% Nothing	4%	6%	6%	6%	5%	4%	10%
% Little	23%	35%	30%	32%	21%	12%	35%
% Fairly	52%	50%	51%	53%	42%	25%	44%
% A great deal	21%	8%	13%	9%	32%	59%	11%

APPENDIX C - TABLE TWO

SELECTED STUDENT COMMENTS

23. Generally speaking, what should be done to improve this unit?

I think they should of had more illustrations and tried to make it more interesting.

I don't think nothing should be done to improve the unit. I liked it the way it was.

Not have so much talk and make the unit simpler to understand. The book should speak more of the things in our environment today and the city life.

The reading needs to be improved. The reading was too factual.

Not much could be done to improve the unit. It's very well done.

If possible, make the reading more interesting. In the interviews with the farmers you get confused because you can't remember the name of the farmer and what he did.

If the reading could be improved, I don't think it would be so dull. I didn't enjoy the unit as much as the others. I enjoyed the game and part on hunger the most.

Maybe include more illustrations, photgraphy and graphs to help point out ideas. Include question for thought, so the student can develop his own ideas and maybe improve yours.

Have more games somewhat like the farming game. Have more interviews.

In the interviews some of the men interviewed sounded fake. Especially Mr. Yomura - I know some people that have only been in the US for three years, coming from China and Japan, and they do not talk that way at all.

It should be more like the last unit in that each individual should be given something to do as a class or for a group.

There was generally a lot of reading in the unit. It should be changed so there's not so much reading.

Small spotsy items such as installing review Q's and other thought problems which would instill the students to think of things they normally wouldn't think of.

Selected Student Comments

23. Generally speaking, what should be done to improve this unit? (cont.)

Generally speaking, the material in this unit is excellent, but the presentation needs more work to give it justice. It appeared to be a newer unit as compared to the others - its potential is great and with little more improvement it could be even better. I think Hunger Revisited requires the greatest improvement. I think it should be introduced in the beginning of the unit and have kids aware of the topic in daily newspapers, magazines and bulletins from the State Department.

I think this unit was very well done. The thing I would do would make this unit longer because I think it was quite short. I would also drop the interviews with the farmer.

Nothing, its very good, but make the interviews more interesting. Ask different questions about crops and what type a problem does it take to grow these crops.

It was too easy things were taught that really didn't really matter if you knew it or not.

The unit in itself was comparably quite good in comparison to other projects as the Portsville and Lego projects, even though the project was not completed. The photography was quite bad and the graphs were not explained quite well enough. Reading was dull unless interest was aroused.

I really don't think there is anything much you can do to improve this unit. This unit is the best of the other two.

Nothing, it was generally good. I didn't enjoy it as much as the Culture Unit but I did enjoy it.

Couldn't your transparencies be in color?

Also, we should have colored and clearer transparencies. I almost went blind trying to figure them out.

I think the unit was very good. To improve maybe you could cut down the reading material and allow more time to spend on the unit.

In my opinion I think the interviews need the greatest improvement. I think you shouldn't have so many of them and they should be shorter. It did raise my outlooks on farmers though.

More materials other than reading matter should be brought in. Also the writing in the book should be not so elementary, get more specific and less simplicity.

Selected Student Comments

23. Generally speaking, what should be done to improve this unit? (cont.)

If the reading could be made more interesting and the maps and scales and other pictures more colorful, this would improve the unit greatly. Also, if the tranparencies could be made easier to read.

Not as much figuring in the game of farming.

Make the reading more interesting. Make the point of what we're to learn clearer.

Don't make it so childish. The farming game wasn't bad but the whole unit could have been done better.

Show us what happens when some people live in a world where there is hunger.

I can not think of any suggestions. This has been your best unit so far - I feel and there would be little improvement needed. Maybe to save people from confusion the unit on Hunger could have been in the same unit as hunger revisited.

26. What was the most worthwhile thing you learned from this unit?

All about farming and it is not as easy as you think and how it involves many problems.

I learned that not all the countries use new machinery to plow their land. Some still do it in their own custom.

About farming, all the things a farmer has to go through to grow crops and the disappointments he has.

About farming and its risks both financial and physical.

I really learned alot. I found the interviews with the farmers to be very interesting.

Not to be a farmer because it involves a lot of things and it is not a happy life for you or your family, that is if you are married.

How in farming there are many things which determine the success of a crop. The risk the farmers must take.

That all people are not as lucky as we are.

The reasons why the farmers plant certain crops. And I did not know farmers took such risks.

Selected Student Comments

26. What was the most worthwhile thing you learned from this unit? (cont.

How hungry some of the rest of the world really is.

That world hunger problems can't be solved with the wave of a hand. There are real obstacles to overcome, but that there is also some real ideas and real hope to overcore them.

Learning how and why the farmers through the years planted and invested certain crops and livestock. And how the present day farmers consider farming as a job and a necessity.

I think the most worthwhile thing I learned was not to depend solely on one crop. Also, how to settle on a crop when working with another person.

There was no one thing that I felt was the most worthwhile. Each activity had a different purpose and came through with it. I felt that this was the most worthwhile unit we have taken.

The most worthwhile thing I learned from this unit was the Hunger Revisited section that dealt with Inhospitable Environments because it was an influence on my concern of countries abroad.

The most worthwhile thing I learned from this unit was that not everyone in the world is as well fed as I am, and that because I have been so lucky, it's my duty as a Christian person to help change the hunger situation.

I learned to appreciate the ingenuity of the farmers of the world. I discovered that their work is more than growing plants, it is the science of producing more and better food for our world.

The best thing I learned was from the games. I learned that farmers aren't really so dumb. In fact, I think they know about nature more than any scientist does. I learned to respect the farmer for what he does for our community.

The most worthwhile thing I learned from this unit was the great feeling and respect I now have toward farmers. It also brings to mind that these farmers feed millions of hungry people. What do we do?

That there are millions of people in the world and at the present rate of growth we won't have enough food to feed to them. Farmers are trying.

I learned alot about farmers. Before I never thought of them, but now I know how hard his job is, his chores, attitude and crops.

Selected Student Comments

26. What was the most worthwhile thing you learned from this unit? (cont.)

About being a farmers wife and how much you need to work and help the farmer.

What it means to be a farmer, the hardships and the time you put into everything.

About different crops and the ups and downs a farmer has in his income and crops.

That farming is more complicated and interesting than it seemed before I took the unit.

Nothing - I am a farmboy and I knew most of the things to start with.

That farming is fun but difficult at times.

That farmers have a great many risks to take, it costs alot of money, time and effort. That to grow a crop there is a lot of preparation to be done, find out about weather, soil, rain etc. Farming is a very risky business.

It was what decisions the farmers have to make and why and what happens if the wrong choice is made.

The most worthwhile thing I learned was exactly how a farm works, how the farmer makes his decisions, and what risks he faces.

How the weather, soil and land forms effect the agricultural regions of the world.

24.-25. What improvements would you recommend (in individual activities)?

Activity One

Some of the reading could be more interesting. They should have some film on this unit.

When I heard about the lives of people and how they were starving, I wanted to know more.

This activity should be more condensed and written in an easier way so it may be completely understood. It was hard to understand the lesson to be learned.

Selected Student Comments

24.-25. What improvements would you recommend (in individual activities)? (cont.)

Activity One (cont.)

Hunger should be made and presented in a more personal way rather than the dry and uninteresting presentation presently in use. Other than that the unit is very worth while and very interesting. I think it shouldn't be missed.

Hunger should be made and presented in a more personal way. Maybe with interviews with people faced with this same problem. People that are hungry, not just a written statement. The problem of hunger could be ignored by the student, the way its written it is very boring and dry in content.

The reading was quite important in this activity but since there was no additional activity it became quite dull. If an additional activity was added to this part of the unit, you would be able to get much more out of it.

The graphs were seemingly inaccurate and non-informative. They did give a slight picture of how the situation is, they were missing the numbers which satisfy the sensation of want for certain knowledge. I learned how lucky we are in America and I've learned how to use money. I've learned that farmers also cannot plant without costly machinery and seeds.

You made this section too factual. Statistics are very necessary but I think the average student would also like to know something about the hungry people of the world. Why are they hungry, who are they. You managed to show what we could do to help but not who needs the help and why.

Perhaps if you could present a different approach to dramatize this world problem, for instance, how the starving people themselves or their leaders feel about this.

This activity would have been much better with more pictures and more explanation on what calorie consumption means, and explain chart much better.

Activity Two

This activity was too dragged out, it would be better if there was more to it.

I think students don't learn from reports unless someone opines them up. Having reports people just sit and daydream and reports seemed to be all we did in this activity. Drop the reports!

Selected Student Comments

24.-25. What improvements would you recommend (in individual activities)? (cont.)

Activity Two (cont.)

Just hearing about how plants look when they're mature and what factors help them to grow isn't interesting. Perhaps if we could grow our own or visit a real farm.

Activity Three

They were boring and didn't seem lifelike whatsoever.

It was very good but the one with Mr. Yomura maybe could be improved a little. I think that you kind of over-emphasized the labor problem. Maybe in the interviews you could include more of the actual techniques the farmer used.

The information is O.K., but it just doesn't seem real.

I believe the interviews need the greatest improvement. It is very hard to sit for half an hour and listen to men discuss their farming. We learn alot, but it would be easier to learn if it was more interesting. I really liked all the other activities, especially the Game of Farming, because it brought us right down to face the everyday problems a farmer has.

The interviews sounded fake. They should be put out uncensored.

The interviews should be expanded and should include the farmer's idea of how problems should be solved.

Generally I think the reading parts should be involving the student more.

I thought it was rather boring and something should be done so it isn't.

Get different people from more parts of the world to speak. Like China, Africa, and the Middle East.

I think they should have some type of activity for us to do, because those questions we had to answer were just like back on the old geography grind - questions.

This helped us learn the problems of various areas but it was very boring. Also, I believe this was supposed to be a general outlook on the farming in these areas. There were too many personal problems for each farmer.

Selected Student Comments

24.-25. What improvements would you recommend (in individual activities)? (cont.)

Activity Three (cont.)

I think you talk too much (interviews) and you should of had us do more.

Interviews with farmers it was kind of boring if you just sit and listen on tape. Get a film strip.

They sounded too old fashioned. Should be more interesting and not sound like the farmers were reading it. Most of the farmers sounded like the same person.

The interviews with the farmers are too phony and because of this, you don't learn as much because your attention is diverted to the accent, etc.

The interviews should be shortened. The dialogue needs to be more realistic. The voices should have more expression to them.

Activity Four

More information could be given on how the student is to go about making the profits.

The Game of Farming could also be improved along with the interviews. I think these are the best activities but as I said before, they need some polish. The game should be supplemented with a land use map using Portsville tools.

The game of farming could be extended rather than stopping at the 1930's also a person facing bankrupcy should be able to dispense with hired labor if need be. Such a thing would be done in everyday life. And extended into other states other than Kansas.

Activity Five

Introduce groups that are helping solve the hunger problem. Peace Corps, etc. Outline what good they have done and what are their plans.

All of the activities have been good, but the one Hunger Revisited seems to be "stuck" in. It should be included in the Hunger Activity. Then it would probably be understood better.

APPENDIX D

ITEM ANALYSIS AND CONTENT DATA

Content	HSGP Students		Discrimination Index
	Pretest	Posttest	(r_{bis})
1. A small percent of the world's land surface is used to raise food crops.	26%	49%	.32
2. Truck farming activities tend to be located near urban centers.	63%	77%	.42
3. Farm labor is more in demand in some areas of the world than in others.	13%	34%	.47
4. Farmers in densely populated areas of the world consider caloric yields per acre for the various grain crops before deciding what they will grow.	66%	83%	.44
5. Certain climatic phenomena are more problematic to Kansas wheat farmers than others are.	38%	51%	.50
6. Economic and educational factors such as high per capita income and a high rate of literacy will be found associated with well-fed areas of the world.	61%	73%	.46
7. In marginal farm areas consideration of the climatic requirements of grain crops tend to be more important in a farmer's decision about what to plant than other considerations do.	56%	72%	.61
8. Farmers and manufacturers are involved in economic activities that are similar in some ways but different in others.	76%	88%	.43
9. Certain grain crops are more appropriate to the climatic conditions of an area than others are.	37%	47%	.50
10. The majority of the land surface of the world is inhospitable to agriculture.	69%	78%	.33
11. Because certain grain crops have differing moisture requirements they are not usually found in the same area.	73%	86%	.60
12. A farmer's decision to irrigate his land is likely to increase his yields and production costs but will not affect the market price of his produce.	29%	38%	.60

Item Analysis and Content Data (cont.)

	Content	HSGP Students Pretest	HSGP Students Posttest	Discrimination Index (r_{bis})
13.	By looking at graphed data on per capita income and rate of population increase per year a person can predict areas of the world where hunger is likely to be a problem in the future.	49%	66%	.58
14.	(Same as number 13)	42%	53%	.54
15.	Knowledge of the literacy rate of a country would also be useful in predicting areas of the world where hunger is likely to be a serious problem in the future.	41%	51%	.48
16.	Nations with a low per capita income tend to have a high birth rate.	62%	81%	.68
17.	Factors such as land value and climatic conditions are important in a farmer's decision to raise cattle commercially.	68%	76%	.60
18.	It is efficient to raise certain crops and livestock together.	66%	79%	.49
19.	The climatic requirements for certain grain crops determine the presence or absence of these crops in the various areas of the world.	80%	86%	.53
20.	Cultural preference determines the presence or absence of certain varieties of crops and livestock in various areas of the world.	25%	37%	.29
21.	Farm work is often seasonal.	84%	92%	.55
22.	Undernourished areas of the world commonly have a dense and rapidly growing population.	48%	64%	.46
23.	Farm machinery is not commonly found in areas of the world where the practice of agriculture is non-commercial.	63%	73%	.44
24.	Sugar beets and cane sugar have different climatic requirements and are therefore found in different areas of the world.	33%	67%	.81
25.	(Same as number 24)	37%	66%	.80

Item Analysis and Content Data (cont.)

	HSGP Students		Discrimination Index
	Pretest	Posttest	(r_{bis})
26. Climatic considerations play an important part in a farmer's decision about what he will choose to raise.	70%	76%	.55
27. (Same as number 26)	53%	66%	.54
28. Economic and health factors such as low per capita income and high instance of disease are usually associated with areas of the world where undernourishment is a problem.	43%	44%	.46

29. Students were asked to list the five factors they felt to be most important in influencing the crop and livestock choices of the farmers in their area.

A sample of 150 papers was drawn at random for both the pretest and the posttest. The papers were interspersed so that the examiners could not tell which were the pretests and which were the posttests.

One point was given for each appropriate factor listed in question 29. Five points total were possible on the question. When the papers were resorted into pretest and posttest piles the grading distribution was as follows:

Pretest		Posttest	
% of Students	# of correct responses	% of Students	# of correct responses
8%	5	14%	5
30%	4	37%	4
38%	3	32%	3
14%	2	12%	2
6%	1	2%	1
1%	0	1%	0

30. Students were asked to list the areas of the world where hunger is a serious problem then to explain why hunger is a difficult problem to overcome and finally to suggest some reasonable measures to lessen the problem.

The sample of 150 pretest and 150 posttest answer sheets for this question was examined in some detail. The examiners classified each paper as being either "exceptionally good", "satisfactory", or "unsatisfactory". When the answer sheets had resorted into pretest and posttest piles the grading distribution was as follows:

Pretest		Posttest	
% of Students	Type of Response	% of Students	Type of Response
6%	"exceptionally good"	26%	"exceptionally good"
45%	"satisfactory"	47%	"satisfactory"
49%	"unsatisfactory"	27%	"unsatisfactory"

APPENDIX E

HSGP Limited School Trials Data 1967 - 1968

(Percentages are either per cent positive or per cent yes)

	Growth of Cities	Geography of Culture Change	Agriculture
Student interest	79%	72%	81%
Student learning	78%	72%	73%
**Estimate of student interest	1.10	.98	1.33
**Estimate of student learning	1.09	.94	1.16
Pretest mean	54%	54%	54%
Posttest mean	65%	65%	66%
Effectiveness with respect to other units	81%	64%	75%
Readings clear: average student	96%	100%	100%
Readings clear: below average student	35%	45%	56%
Readings well organized	88%	91%	89%
More readings needed	46%	87%	33%
*T.G. useful regarding supplementary readings	33%	12%	78%
Student interest in readings	60%	55%	57%
*T.G. useful regarding objectives	88%	83%	67%
*T.G. useful regarding variety	65%	35%	56%
*T.G. useful regarding background	63%	76%	56%
*T.G. overdirective	12%	32%	44%
*T.G. underdirective	30%	16%	44%
Subject matter too complicated	4%	0%	0%
Subject matter too simple	12%	32%	11%
Organization of subject matter	85%	71%	67%
Appropriateness of text	92%	83%	89%

*T.G. = Teacher's Guide

**The system used to obtain the above mean ratings is explained on page 6.

APPENDIX F

HSGP Student Questionnaire for The Agriculture Unit

_____ Student Number

Directions: Your opinions are very important in changing HSGP materials. We need to know what you honestly believe so the final version of the course will reflect what students as well as teachers think. Blacken the appropriate space on the HSGP Questionnaire Answer Sheet for the first 22 questions. Then turn this sheet over and answer questions 23-26.

What did you think of the unit and its activities in terms of their interest to you?

1. The unit as a whole
2. The reading in the unit
3. Hunger
4. The Agricultural Realm
5. Interviews with Farmers
6. The Game of Farming
7. Hunger Revisited

Possible Answers:

A. I do not remember it well enough to say
B. Dull
C. Generally not interesting
D. Generally interesting
E. Extremely interesting

Did you feel that you generally knew what you were supposed to learn from the unit and its activities?

8. The unit as a whole
9. The reading in the unit
10. Hunger
11. The Agricultural Realm
12. Interviews with Farmers
13. The Game of Farming
14. Hunger Revisited

Possible Answers:

A. I do not remember it well enough to say
B. No
C. Generally not
D. Yes, generally
E. Yes, almost always

How much do you feel you learned from the unit and its activities?

15. The unit as a whole
16. The reading in the unit
17. Hunger
18. The Agricultural Realm
19. Interviews with Farmers
20. The Game of Farming
21. Hunger Revisited

Possible Answers:

A. I do not remember it well enough to say
B. Nothing
C. Little
D. Fairly much
E. A great deal

22. How does this unit compare with others you have studied in this and other courses?

A. This one is much poorer.
B. This one is somewhat poorer.
C. This one is somewhat better.
D. This one is much better.

-over-

Please write in the spaces indicated.

23. Generally speaking, what should be done to improve this unit?

24. Choose the activity that you feel needs the greatest improvement from the list on the other side of this sheet and tell what should be done to improve it.

25. What other activity or activities need improvement? What improvements would you recommend?

26. What was the most worthwhile thing you learned from this unit?

TEACHER ACTIVITY EVALUATION FORM

_____ Teacher's Name Activity Name_____

_____1. How much class time in minutes did the activity take?

_____2. How much more time could have been used profitably?

3. Describe briefly what you did when carrying out the activity that was different from suggestions in the teacher's guide.

_____

_____

_____

_____

_____

_____

_____4. How much did you like teaching the activity?

A. Not at all B. Little C. Generally D. Very much

Comments: _____

_____

_____5. How interesting was the activity for your students?

A. Dull B. Generally not interesting C. Generally interesting
D. Extremely interesting

Comments: _____

_____

_____6. How much do you feel your students learned from the activity?

A. Nothing B. Little C. Fairly much D. A great deal

Comments: _____

_____

_____7. Were you clear about what your students were supposed to learn from the activity?

A. Not clear B. Only somewhat C. Generally D. Very

Comments: _____

_____

Teacher Activity Evaluation Form

_____8. How confident did you feel about the subject matter in the activity?

A. Not at all confident B. Only somewhat C. Generally D. Very

_____9. How confident did you feel about the teaching procedures required in the activity?

A. Not at all confident B. Only somewhat C. Generally D. Very

_____10. How much does this activity need to be revised?

A. Not at all B. Slight modifications here and there
C. Restructuring of some aspects D. Major revisions before further classroom use

In which of the following areas does this activity seem to have difficulties? A check (✓) will be sufficient indication.

_____11. Clarity of Teacher's Guide with respect to suggested teaching procedures

_____12. Clarity of directions for students

_____13. Adequacy of Teacher's Guide with respect to providing the geographic background you need to teach the activity

_____14. Reading level of the student materials

_____15. Effectiveness of maps, graphs, overlays, quizes, etc.

16. Please elaborate on any difficulties existing in the activity and suggest needed changes.

TEACHER FINAL QUESTIONNAIRE FOR AGRICULTURE

Teacher's Name_____

Directions: Please react to the questions below by checking the appropriate space and/or filling in the blanks provided.

A. Reading Materials

Yes No

___ ___ 1. Do you believe the reading materials are clearly written and understandable for the average student?

___ ___ 2. Do you believe the reading materials are clearly written and understandable for the below average student?

___ ___ 3. Do you believe the reading materials are well-organized from an instructor's point of view?

___ ___ 4. Should there be more student reading in the unit?

___ ___ 5. Should there be less student reading in the unit?

6. Suggestions and/or comments about the reading materials:

_____

_____

_____

B. Teacher's Guidelines

Should the Teacher's Guidelines be made more effective

Yes No

___ ___ 7. In providing clear directions for the teacher?

___ ___ 8. In clarifying the objectives of the unit?

___ ___ 9. In suggesting a variety of learning activities?

___ ___ 10. In providing the geographical background you needed to teach the unit?

___ ___ 11. In suggesting supplementary reading materials for students?

___ ___ 12. Did you feel unnecessarily restricted or overly directed by the guidelines?

___ ___ 13. Do you feel the quidelines should provide more direction for the teacher?

-over-

14. Suggestions and/or comments about the Teacher's Guidelines.

_____

_____

_____

_____

_____

_____

_____

_____

C. The Subject Matter in the Unit

Yes No

___ ___ 15. Is the subject matter of the unit too difficult for students?

___ ___ 16. Is the subject matter of the unit too simple for students?

___ ___ 17. Is the subject matter well organized?

18. Suggestions and/or comments about the subject matter:

_____

_____

_____

_____

D. The Unit as a Whole

19. How worthwhile is each activity?

_____ Hunger

_____ The Agricultural Realm

_____ Interviews with Farmers

_____ The Game of Farming

_____ Hunger Revisited

A. Essential to the unit

B. Could be optional

C. Could be dropped

20. What do you think was the most worthwhile thing your students learned from the unit?

Yes No

___ ___ 21. Did the unit test adequately measure the content of the unit as you taught it?

22. Please indicate how the test can be improved.

23. If you were to reteach the unit the way you want to what changes would you make a) in the activities you would teach, b) in the order of teaching the activities and c) in the amount of time you would spend on each activity. Please explain.

-over-

24. What additional suggestions do you have for improving the effectiveness of the unit?

25. Compared to other units you have taught, how effective is this unit in its present form?